

CAREX EXILIS, GEOCAULON LIVIDUM AND OTHER PLANTS OF INTEREST IN PITTSBURG, NEW HAMPSHIRE. South Bay Bog at the southern end of First Connecticut Lake in Pittsburg, Coös County, New Hampshire apparently was not visited by A. S. Pease, S. K. Harris and other botanists who collected extensively in Coös County. The bog is very extensive, much of it open but with scattered clumps of stunted Black Spruce and Tamarack. Lying between 1600 and 1700 feet elevation, it appears in every way to be boreal in character with the following species of shrubs in abundance, *Ledum groenlandicum*, *Rhododendron canadense*, *Andromeda glaucophylla*, *Kalmia polifolia*, *K. angustifolia*, *Cassandra calyculata*, *Pyrus melanocarpa*, *Viburnum cassinoides* and *Vaccinium angustifolium*.

Bog Branch of Cedar Stream flows through or along the northern edge of South Bay Bog and near it, in sites where some drainage appears to run off the adjacent upland, there are scattered trees of *Thuja occidentalis* L., some up to 30 inches d.b.h. These represent remnants of the primeval forest since, along with dying trees of large size, there are fallen ones in all stages of decay. Several species of orchids grew in the immediate vicinity of trees of Arbor Vitae, the rarest of which was *Listera convallarioides* (Liv.) Nutt. A plant here of perhaps greater interest was *Epilobium palustre* L. var. *palustre* of which Seymour (1969) states "Often with *Thuja*," but of which he cites only one locality in New Hampshire, "Mt. Washington." Pease (1964) states its habitat as "Boggy places, especially on the high mountains," but he gives two localities for it at lower elevations both probably with some "Cedar" associated, "Stewartstown, Cedar bog" and "Columbia, near Lime Pond."

In the more open part of South Bay Bog dominated by sphagnum moss and the previously mentioned shrubs and dwarf conifers there are plants of still greater interest to a taxonomist, one being *Carex exilis* Dewey and the other *Geocaulon lividum* (Richards.) Fern. *Carex exilis* is a sedge of local but wide distribution in New England, it being

found occasionally in all States except Connecticut. Fernald (1950) omits mention of New Hampshire and Vermont in his statement of range for the species though he does mention Massachusetts, while Seymour (1969) gives but one township for it in New Hampshire, "Tamworth" where it was collected by F. L. Steele in a bog near Chocorua Lake and where he has shown it to me. Specimens of it are in the herbaria of the New England Botanical Club (NEBC) and the University of New Hampshire (NHA). However also at NHA are two other collections of fairly long standing, the earlier being from Windham in Rockingham County collected on June 14, 1897 by W. S. Harris. This record was included in the list published by Hodgdon and Friedlander (1949). The second collection of *Carex exilis* at NHA is from a bog in Pittsburg known as "Moose Pasture" lying along East Inlet about two miles northeast of Second Connecticut Lake. This was collected by me in company with Peter Allen on July 23, 1960 and bears my collection number 11636. Pease (1964) did not include *C. exilis* in his "Flora" and it is quite possible that this specimen of it was not available for inspection at the time that Pease was gleaning additional records for Coös County and Harris was carefully checking the manuscript before publication. The specimens of *C. exilis* observed at South Bay Bog on our visit of June 8, 1973 were completely dioecious, the clones or colonies of female individuals being widely separated from the males.

The other species of outstanding interest at South Bay Bog was *Geocaulon lividum*. I have been quite familiar with the Northern Comandra from the frequency of its occurrence in bogs on Campobello Island, New Brunswick and its presence on the Wolf Islands in the Bay of Fundy where R. B. Pike and I have observed it. It seems strange that a species inhabiting bogs at low elevations in coastal eastern Maine and the Maritime Provinces should be confined to montane areas inland though the same relationship seems to hold for *Rubus chamaemorus* L. and *Lycopodium annotinum* L. var. *pungens* (LaPylliae) Desv. Harris (1965)

discussed the distribution of *Geocaulon lividum* in a critical way, pointing out that its habitat in stations that he visited was mostly damp but not boggy sites and that the lowest elevation for it was at 2500 ft. on the Basin Rim in Coös County. The station at South Bay Bog is in no way montane and the elevation is between 1600 and 1700 feet. It is entirely possible that botanists have concentrated their collecting more in the mountains than in the more prosaic terrain of bogs that often lie between the mountains, thus passing by an interesting intermediate type of habitat for certain species that are supposed to occur only in coastal areas or near the tops of mountains. In any event it is evident that *Geocaulon lividum* should be searched for widely as Stuart Harris pointed out, not only as he suggested, in montane situations but also in bogs at intermediate elevations in Northern New England.

Specimens of *Carex exilis* and *Geocaulon lividum* have been deposited in the herbaria of the New England Botanical Club (NEBC) and the University of New Hampshire (NHA).

These discoveries would not have been possible except for the expert guidance of Dr. Peter Allen. In addition I have borrowed freely in preparing this article from notes that he made or that we recorded jointly on the occasion of our visit to South Bay Bog on June 8, 1973.

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A. R. HODGDON

DEPARTMENT OF BOTANY

UNIVERSITY OF NEW HAMPSHIRE, DURHAM 03824